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A central-upwind scheme with artificial viscosity for shallow-water flows in channels

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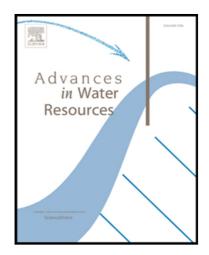
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Highlights

- A scheme for shallow-water flows in channels with artificial viscosity is proposed.
- The central-upwind scheme enjoys well-balance and positivity-preserving properties.
- The non-oscillatory scheme uses high-order reconstructions of cell interfaces.
- The computational cost is low compared to the use of nonlinear limiters.
- A good agreement of numerical results and experimental data is observed.

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